Spec Sheet

Cisco UCS B250 M2 Blade Server

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OVERVIEW

The Cisco® UCS B250 M2 Blade Server is a two-socket, full-width blade server that extends the capabilities of the Cisco Unified Computing System™, using Intel's Xeon 5600 and 5500 Series multi-core processors with 48 DIMM slots for up to 384 GB of memory, two mezzanine slots, and up to two hard disk drives (HDDs) or solid-state drives (SSDs). Up to four full-width blade servers can be accommodated in the Cisco UCS 5108 Blade Server Chassis. The UCS B250 M2 server is shown in *Figure 1*.

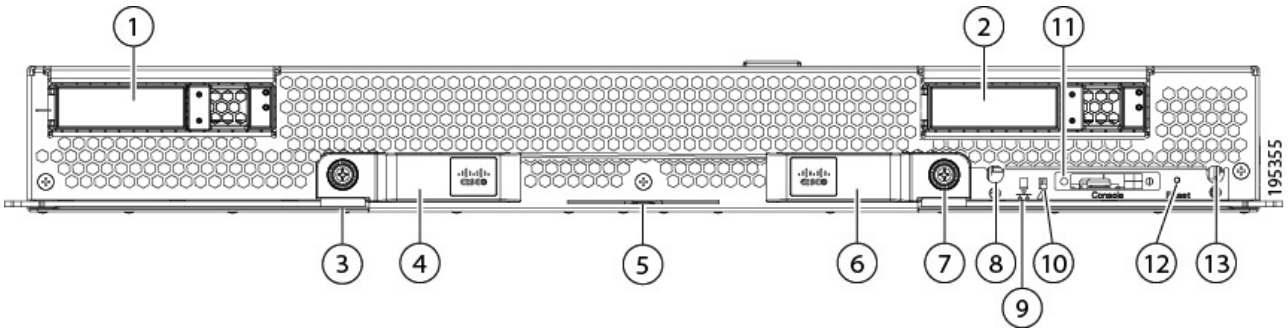
Figure 1 Cisco UCS B250 M2 Blade Server

DETAILED VIEWS

Chassis Front View

Figure 2 shows the front of the Cisco UCS B250 M2 Blade Server.

Figure 2 Chassis Front View



1	Hard drive bay 1 (hot-pluggable)	**8**	Power button and LED
2	Hard drive bay 2 (hot-pluggable)	**9**	Network link status LED
3	Left blade ejector handle captive screw	**10**	Blade health LED
4	Left blade ejector handle	**11**	Console connector[1]
5	Asset tab[2]	**12**	Reset button access
6	Right blade ejector handle	**13**	Beaconing LED and button
7	Right blade ejector handle captive screw		

Notes . . .

1. For more information regarding the KVM cable connection, see **ORDER OPTIONAL KVM CABLE on page 26**
2. Each server has a blank plastic tag that pulls out of the front panel, so you can add your own asset tracking label without interfering with the intended air flow

BASE SERVER STANDARD CAPABILITIES and FEATURES

Table 1 lists the capabilities and features of the base server. Details about how to configure the server for a particular feature or capability (for example, number of processors, disk drives, or amount of memory) are provided in **CONFIGURING the SERVER on page 6**.

Table 1 Capabilities and Features

Capability/Feature	Description
Chassis	The B250 M2 Blade Server mounts in a Cisco UCS 5100-series chassis
CPU	Up to two Intel® Xeon® 5500 or 5600 series processors
Chipset	Intel® 5520 (Tylersburg) chipset
Memory	48 slots for registered DIMMs, up to 384 GB of memory.
Expansion slots	Two mezzanine slots are provided
Storage controller	Onboard LSI 1064E RAID controller Factory-configured RAID support options: ■ RAID 0 and 1
Internal storage devices	Up to two optional front-accessible, hot-pluggable small form factor (SFF) SATA solid-state disk drives (SSDs) or SAS hard disk drives (HDDs).
Video	The server CIMC chip includes a Matrox G200 core. The first 8 MB of memory are allocated to the video core.
Interfaces	■ Front panel • One console connector (see **ORDER OPTIONAL KVM CABLE on page 26**)
Power subsystem	Integrated in the Cisco UCS 5100 series chassis
Fans	Integrated in the Cisco UCS 5100 series chassis
Integrated management processor	The built-in Cisco Integrated Management Controller (CIMC) GUI or CLI interface enables you to monitor the server inventory, health, and system event logs.

CONFIGURING the SERVER

Follow these steps to configure the Cisco UCS B250 M2 Server:

- STEP 1 VERIFY BASE SKU, page 7
- STEP 2 CHOOSE CPU(S), page 8
- STEP 3 CHOOSE MEMORY, page 10
- STEP 4 CHOOSE DRIVES, page 16
- STEP 5 CHOOSE MEZZANINE OPTION CARD(S), page 17
- STEP 6 CHOOSE OPERATING SYSTEM, page 18
- STEP 7 CHOOSE OPERATING SYSTEM MEDIA KIT, page 20
- STEP 8 CHOOSE OPTIONAL VALUE-ADDED SOFTWARE, page 21
- STEP 9 CHOOSE SERVICE and SUPPORT LEVEL, page 22

STEP 1 VERIFY BASE SKU

Verify the product ID (PID) of the base server as shown in *Table 2*.

Table 2 PID of the Base B250 M2 Server

Product ID (PID)	Description
N20-B6625-2	UCS B250 M2 Blade Server w/o CPU, memory, HDD, mezzanine

The B250-BASE-M2 base server:

- Does not include CPUs, memory DIMMs, solid-state Drives (SSDs), hard disk drives (HDDs), or any mezzanine cards.

NOTE: Use the steps on the following pages to configure the server with the components that you want to include.

STEP 2 CHOOSE CPU(S)

The standard CPU features are:

- Intel Xeon 5600-series (Westmere-EP) CPUs
- Intel 5520 chipset
- Cache size of 12 MB

Choose CPUs

The available Intel Xeon 5600-series CPUs are listed in *Table 3*.

Table 3 Available CPUs: Intel Xeon Westmere-EP x56xx Family

Product ID (PID)	Intel Number	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Cores	QPI	Highest DDR3 DIMM Clock Support (MHz)[1]
UCS-CPU-X5687	X5687	3.60	130	12	4	6.4 GT/s	1333
A01-X0115	X5690	3.46	130	12	6	6.4 GT/s	1333
A01-X0100	X5680	3.33	130	12	6	6.4 GT/s	1333
A01-X0117	X5675	3.06	95	12	6	6.4 GT/s	1333
A01-X0102	X5670	2.93	95	12	6	6.4 GT/s	1333
A01-X0105	X5650	2.66	95	12	6	6.4 GT/s	1333
A01-X0109	E5640	2.66	80	12	4	5.86 GT/s	1066
A01-X0120	E5649	2.53	80	12	6	5.86 GT/s	1333
A01-X0111	E5620	2.40	80	12	4	5.86 GT/s	1066
A01-X0106	L5640	2.26	60	12	6	5.86 GT/s	1333

Notes . . .

1. If you select higher or lower speed DIMMs than what is shown in the table for a given CPU, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock. For example:

   Selecting lower-speed DIMMs: If you use an X5690 CPU (which can support up to 1333-MHz DIMMs) with 1066-MHz DIMMs, the DIMMs will be clocked at the lower speed of 1066 MHz.

   Selecting higher-speed DIMMs: If you use 1333-MHz DIMMs with an E5620 CPU (which can support up to 1066-MHz DIMMs), the DIMMS will be clocked at the lower speed of 1066 MHz.

Approved Configurations

(1) One-CPU Configuration

- Choose one identical CPU from any one of the rows of *Table 3*.

(2) Two-CPU Configuration

- Choose two identical CPUs from any one of the rows of *Table 3 on page 8*.

Caveats

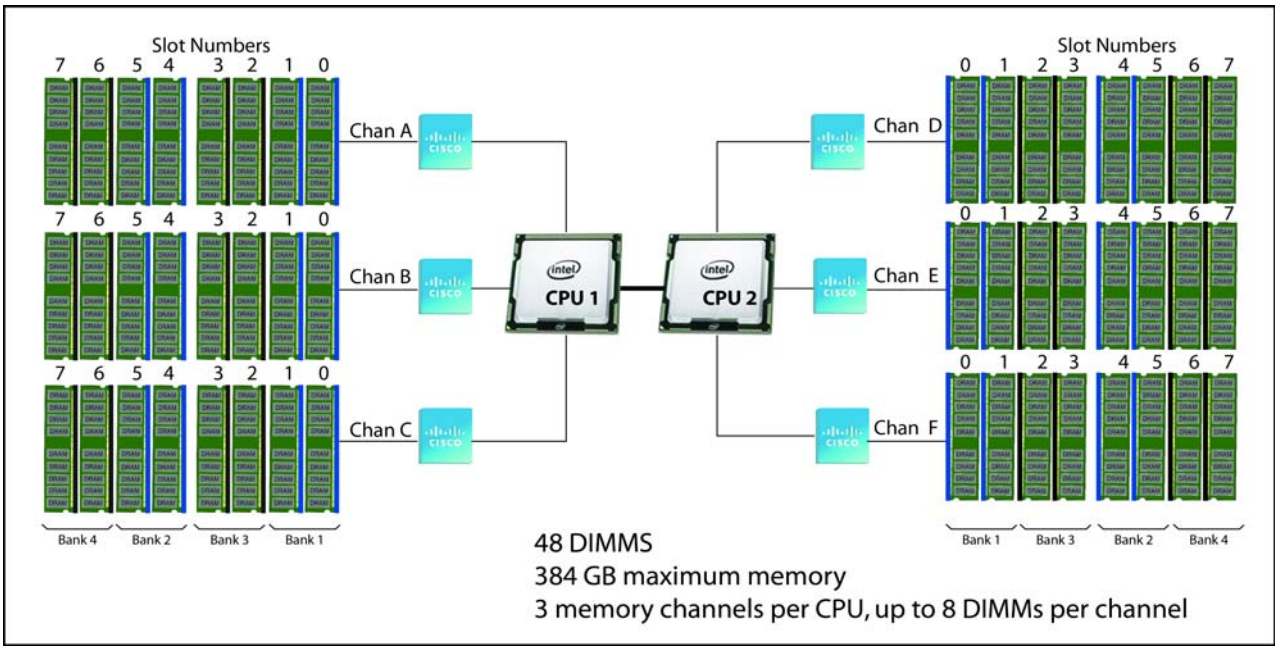
- For optimal performance, select DIMMs with the highest clock speed for a given processor (see *Table 4 on page 11*). If you select DIMMs whose speeds are lower or higher than that shown in the tables, suboptimal performance will result.

STEP 3 CHOOSE MEMORY

The standard memory features are:

- DIMMs
  - Maximum clock speed: 1333 MHz
  - Ranks per DIMM: 1 or 2
  - Operational voltage: 1.5 or 1.35 V (the system operates the DIMMs at 1.5 V only)
  - Registered
- Each CPU controls three DDR3 channels. Each of the channels controls eight DIMMs. The total number of DIMMs that can be installed per CPU is 24 (12 DIMM kits). See *Figure 3*.

Figure 3 B250 M2 Memory Organization



Choose DIMMs and Memory Mirroring

Choose the memory configuration and whether or not you want the memory mirroring option. The available memory DIMMs and mirroring option are listed in *Table 4*. DIMMs are available as two-DIMM kits. Each of the product IDs in *Table 4* specifies two DIMMs.

NOTE: When memory mirroring is enabled, the memory subsystem simultaneously writes identical data to two channels. If a memory read operation from one of the channels returns incorrect data due to an uncorrectable memory error, the system automatically retrieves the data from the other channel. A transient or soft error in one channel does not affect the mirrored data, and operation continues unless there is a simultaneous error in exactly the same location on a DIMM and its mirrored DIMM. Memory mirroring reduces the amount of memory available to the operating system by 50 percent because only one of the two populated channels provides data.

Table 4 Available DDR3 DIMMs

Product ID (PID)	PID Description	Voltage	Ranks/ DIMM
DIMM Pair Kit Options (2 DIMMs per kit)			
UCS-MR-2X041RX-B	2X4GB DDR3-1333-MHz RDIMM/PC3-10600/1R/x4/Low-Volt	1.35/1.5 V	1
UCS-MR-2X082RX-B	2X8GB DDR3-1333-MHz RDIMM/PC3-10600/2R/x4/Low-Volt	1.35/1.5 V	2
Memory Mirroring Option			
N01-MMIRROR	Memory mirroring option		

Approved Configurations

(1) 1-CPU Configuration Without Memory Mirroring

- 24 DIMMs capacity total
- Select 1, 2, 4, 8, or 12 DIMM kits (2, 4, 8, 16, or 24 DIMMs) for CPU1. The DIMMs will be placed by the factory as shown in the following table:

Number of DIMMs (CPU1)	DIMM Placement in Numbered/Colored DIMM Slots (see *Figure 6 on page 29*)
2	(A0, A1) - blue slots
4	(A0, A1) – (A4, A5) - blue slots
8	(A0, A1) – (A4, A5) - blue slots; (A2, A3) – (A6, A7) - black slots
16	(A0, A1) – (A4, A5) - blue slots; (A2, A3) – (A6, A7) - black slots (B0, B1) – (B4, B5) - blue slots; (B2, B3) – (B6, B7) - black slots
24	(A0, A1) – (A4, A5) - blue slots; (A2, A3) – (A6, A7) - black slots (B0, B1) – (B4, B5) - blue slots; (B2, B3) – (B6, B7) - black slots (C0, C1) – (C4, C5) - blue slots; (C2, C3) – (C6, C7) - black slots

(2) 2-CPU Configuration Without Memory Mirroring

- 48 DIMMs capacity total
- Select 1, 2, 4, 8, or 12 DIMM kits (2, 4, 8, 16, or 24 DIMMs) per CPU. The DIMMs will be placed by the factory as shown in the following table:

Number of DIMMs	DIMM Placement in Numbered/Colored DIMM Slots (see *Figure 6 on page 29*)
CPU1	
2	(A0, A1) - blue slots
4	(A0, A1) – (A4, A5) - blue slots
8	(A0, A1) – (A4, A5) - blue slots; (A2, A3) – (A6, A7) - black slots
16	(A0, A1) – (A4, A5) - blue slots; (A2, A3) – (A6, A7) - black slots (B0, B1) – (B4, B5) - blue slots; (B2, B3) – (B6, B7) - black slots
24	(A0, A1) – (A4, A5) - blue slots; (A2, A3) – (A6, A7) - black slots (B0, B1) – (B4, B5) - blue slots; (B2, B3) – (B6, B7) - black slots (C0, C1) – (C4, C5) - blue slots; (C2, C3) – (C6, C7) - black slots

CPU2	
2	(D0, D1) - blue slots
4	(D0, D1) – (D4, D5) - blue slots
8	(D0, D1) – (D4, D5) - blue slots; (D2, D3) – (D6, D7) - black slots
16	(D0, D1) – (D4, D5) - blue slots; (D2, D3) – (D6, D7) - black slots (E0, E1) – (E4, E5) - blue slots; (E2, E3) – (E6, E7) - black slots
24	(D0, D1) – (D4, D5) - blue slots; (D2, D3) – (D6, D7) - black slots (E0, E1) – (E4, E5) - blue slots; (E2, E3) – (E6, E7) - black slots (F0, F1) – (F4, F5) - blue slots; (F2, F3) – (F6, F7) - black slots

(3) 1-CPU Configuration with Memory Mirroring

- 16 DIMMs capacity total
- Select 2, 4, or 8 DIMM kits (4, 8, or 16 DIMMs) for CPU1. The DIMMs will be placed by the factory as shown in the following table:

Number of DIMMs (CPU1)	DIMM Placement in Numbered/Colored DIMM Slots (Channel C not used with memory mirroring)
4	(A0, A1) mirrored to (B0, B1)
8	(A0, A1, A2, A3) mirrored to (B0, B1, B2, B3)
16	(A0, A1, A2, A3, A4, A5, A6, A7) mirrored to (B0, B1, B2, B3, B4, B5, B6, B7)

- Choose the memory mirroring option (N01-MMIRROR) as shown in *Table 4 on page 11*.

NOTE: System performance is optimized when the DIMM memory type and the DIMM quantity is equal for both CPUs.

(4) 2-CPU Configuration with Memory Mirroring

- 32 DIMMs capacity total
- Select 2, 4, or 8 DIMM kits (4, 8, or 16 DIMMs) per CPU. The DIMMs will be placed by the factory as shown in the following table:

Number of DIMMs	DIMM Placement in Numbered/Colored DIMM Slots (Channel F not used with memory mirroring)
CPU1	
4	(A0, A1) mirrored to (B0, B1)
8	(A0, A1, A2, A3) mirrored to (B0, B1, B2, B3)
16	(A0, A1, A2, A3, A4, A5, A6, A7) mirrored to (B0, B1, B2, B3, B4, B5, B6, B7)
CPU2	
4	(D0, D1) mirrored to (E0, E1)
8	(D0, D1, D2, D3) mirrored to (E0, E1, E2, E3)
16	(D0, D1, D2, D3, D4, D5, D6, D7) mirrored to (E0, E1, E2, E3, E4, E5, E6, E7)

- Choose the memory mirroring option (N01-MMIRROR) as shown in *Table 4 on page 11*.

NOTE: System performance is optimized when the DIMM memory type and the DIMM quantity is equal for both CPUs.

Caveats

- Only Cisco memory is supported. Third party DIMMs are not tested or supported.
- All DIMMs within the B250 M2 server should use the same clock frequencies. Mixing clock frequencies is not supported.
- If the system has two CPUs, the DIMM slots for both CPUs should be populated in an identical manner.
- Populate DIMMs of different size and organization in separate memory channels. Populating different sized DIMMs within a channel is not supported. For example you cannot put single-rank 4GB DIMMs in the same channel as dual-rank 4GB DIMMs.
- The B250 M2 server needs at least one DIMM pair installed for CPU 1 or CPU 2.
- Carefully match CPU and DIMM speed. If the CPU and DIMM speeds do not match, the system runs at the slower of the two speeds.
- B250 M2 server memory is always sold as a correctly matched pair with identical manufacturer, type, speed, and size, intended to be installed together in the two paired banks of a single UCS Server memory channel. Mixing of unpaired DIMMs (even with other DIMMs sold under the same product ID) will result in a memory errors should a mismatch occur. When installing DIMMs in a B250 M2, you must add matched pairs to the channel slots

in the order shown in the tables of this section. This server does not support odd numbers of DIMMs in a channel, or a configuration of 6 DIMMs per channel.

- Because memory mirroring only works for an even number of channels, only channels A and B for CPU 1 are used when mirroring is selected. Likewise, only channels D and E for CPU 2 are used when mirroring is selected, Therefore, any DIMMs installed in channels C and F will go unused.

STEP 4 CHOOSE DRIVES

The standard disk drive features are:

- Small form factor SSDs or HDDs
- Hot-pluggable and sled-mounted

Choose Drives

The available drives are listed in *Table 5*.

Table 5 Available Hot-Pluggable Sled-Mounted SSDs

Product ID (PID)	PID Description	Drive Type	Capacity
HDDs			
A03-D146GC2	146 GB SAS 15K RPM SFF HDD	SAS	146 GB
A03-D300GA2	300 GB 6 Gb SAS 10K RPM SFF HDD	SAS	300 GB
UCS-HDD300GI2F105	300GB SAS 15k RPM 2.5in HDD	SAS	300 GB
A03-D500GC3	500 GB 6 Gb SATA 7.2K RPM SFF	SATA	500 GB
A03-D600GA2	600 GB 6 Gb SAS 10K RPM SFF HDD	SAS	600 GB
UCS-HDD900GI2F106	900GB SAS 10K RPM 2.5"	SAS	900 GB
A03-D1TBSATA	1 TB SATA 7.2K RPM SFF HDD	SATA	1 TB
SDDs			
UCS-SSD100GI1F104	100 GB Low-Height 7mm SATA SSD	SATA	64 GB

Approved Configurations

(1) 1-Drive Configuration

- Select one drive from *Table 5*.

(2) 2-Drive Configuration

- Select two drives from *Table 5*.

Caveats

- For two-drive configurations:
  - You cannot mix HDDs and SDDs
  - You cannot mix SAS and SATA drive types

STEP 5 CHOOSE MEZZANINE OPTION CARD(S)

The standard PCIe card offerings are:

- Converged Network Adapters (CNA)
- Network Interface Cards (NICs)

Choose a PCIe Option Card

The available PCIe option cards are listed in *Table 6*.

Table 6 Available PCIe Option Cards

Product ID (PID)	PID Description
Converged Network Adapters (CNA)	
N20-AC0002	UCS M81KR Virtual Interface Card/PCIe/2-port 10Gb
N20-AQ0102[1]	Cisco UCS CNA M72KR-Q Qlogic Adapter
N20-AE0102[2]	Cisco UCS CNA M72KR-E Emulex Adapter
N20-AI0102[1]	Cisco UCS CNA M61KR-I Intel Converged Network Adapter
Network Interface Cards (NICs)	
N20-AB0002[1]	Cisco UCS M51KR-B Broadcom 57711 Adapter

Notes . . .

1. You can mix this adapter with the N20-AC0002 adapter
2. You can mix this adapter with the N20-AC0002 adapter

Approved Configurations

(1) Select One or Two PCIe Mezzanine Cards

You must select at least one card, and up to two cards as long as you observe the mixing rules specified in *Table 6*.

To help ensure that your operating system is compatible with the cards you have selected, please check the Hardware Compatibility List at this URL:

http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html

STEP 6 CHOOSE OPERATING SYSTEM

Several operating systems are available from which to choose. Choose one of the operating systems listed in *Table 7*.

Table 7 Operating Systems

PID Description	Product ID (PID)
Red Hat Enterprise Linux	
RHEL-2S-1G-1A	RHEL/2 Socket/1 Guest/1Yr Svcs Required
RHEL-2S-1G-3A	RHEL/2 Socket/1 Guest/3Yr Svcs Required
RHEL-2S-4G-1A	RHEL/2 Socket/4 Guest/1Yr Svcs Required
RHEL-2S-4G-3A	RHEL/2 Socket/4 Guest/3Yr Svcs Required
RHEL-2S-UG-1A	RHEL/2 Socket/U Guest/1Yr Svcs Required
RHEL-2S-UG-3A	RHEL/2 Socket/U Guest/3Yr Svcs Required
RHEL-2S-1G-1A-RS	RHEL/2 Socket/1 Guest/1Yr Subscription/Redhat Svcs Included
RHEL-2S-1G-3A-RS	RHEL/2 Socket/1 Guest/3Yr Subscription/Redhat Svcs Included
RHEL-2S-4G-3A-RS	RHEL/2 Socket/2 Guest/3Yr Subscription/Redhat Svcs Included
RHEL-2S-4G-1A-RS	RHEL/2 Socket/4 Guest/1Yr Subscription/Redhat Svcs Included
RHEL-2S-UG-1A-RS	RHEL/2 Socket/U Guest/1Yr Subscription/Redhat Svcs Included
RHEL-2S-UG-3A-RS	RHEL/2 Socket/U Guest/3Yr Subscription/Redhat Svcs Included
RHEL Add-Ons	
RHEL-HA-2S-1A	RHEL Option/High-Availability/2 Socket/1Yr Svcs Required
RHEL-RS-2S-1A	RHEL Option/Resilient w/Ha /2 Socket/1 Yr Svcs Required
RHEL-SFS-2S-1A	RHEL Option/Scalable File System/2 Socket/1 Yr Svcs Required
RHEL-HA-2S-3A	RHEL Option/High-Availability/2 Socket/3Yr Svcs Required
RHEL-RS-2S-3A	RHEL Option/Resilient Storage w/ HA /2 Socket/3 Yr Svcs Reqd
RHEL-SFS-2S-3A	RHEL Option/Scalable File System/2 Socket/3 Yr Svcs Required
RHEL-HA-2S-1A-RS	RHEL Option/High-Availability/2 Socket/1Yr Redhat Svcs Incld
RHEL-RS-2S-1A-RS	RHEL Option/Resilient Storage/2 Socket/1 Yr Redhat Svcs Incl
RHEL-SFS-2S-1A-RS	RHEL Option/Scalable File Sys/2 Socket/1 Yr Redhat Svcs Incl
RHEL-HA-2S-3A-RS	RHEL Option/High-Availability/2 Socket/3Yr Redhat Svcs Incld
RHEL-RS-2S-3A-RS	RHEL Option/Resilient Storage/2 Socket/3 Yr Redhat Svcs Incl
RHEL-SFS-2S-3A-RS	RHEL Option/Scalable File Sys/2 Socket/3 Yr Redhat Svcs Incl
Windows Server	
MSWS-08R2-STHV	Windows Svr 2008 ST media R2 ST (1-4CPU, 5CAL)
MSWS-08R2-ENHV	Windows Svr 2008 EN media R2 EN (1-8CPU, 25CAL)
MSWS-08R2-DCHV2S	Windows Svr 2008 R2-2 CPU-Data Center

Table 7 Operating Systems *(continued)*

PID Description	Product ID (PID)
VMWare Server	
VMW-VS5-STD-1A	VMware vSphere 5 Standard for 1 Processor, 1 Year, Support Req
VMW-VS5-STD-2A	VMware vSphere 5 Standard for 1 Processor, 2 Year, Support Req
VMW-VS5-STD-3A	VMware vSphere 5 Standard for 1 Processor, 3 Year, Support Req
VMW-VS5-STD-4A	VMware vSphere 5 Standard for 1 Processor, 4 Year, Support Req
VMW-VS5-STD-5A	VMware vSphere 5 Standard for 1 Processor, 5 Year, Support Req
VMW-VS5-ENT-1A	VMware vSphere 5 Enterprise for 1 Processor, 1 Year Support Req
VMW-VS5-ENT-2A	VMware vSphere 5 Enterprise for 1 Processor, 2 Year Support Req
VMW-VS5-ENT-3A	VMware vSphere 5 Enterprise for 1 Processor, 3 Year Support Req
VMW-VS5-ENT-4A	VMware vSphere 5 Enterprise for 1 Processor, 4 Year Support Req
VMW-VS5-ENT-5A	VMware vSphere 5 Enterprise for 1 Processor, 5 Year Support Req
VMW-VS5-ENTP-1A	VMware vSphere 5 Enterprise Plus for 1 Processor, 1 Year, Supp Req
VMW-VS5-ENTP-2A	VMware vSphere 5 Enterprise Plus for 1 Processor, 2 Year, Supp Req
VMW-VS5-ENTP-3A	VMware vSphere 5 Enterprise Plus for 1 Processor, 3 Year, Supp Req
VMW-VS5-ENTP-4A	VMware vSphere 5 Enterprise Plus for 1 Processor, 4 Year, Supp Req
VMW-VS5-ENTP-5A	VMware vSphere 5 Enterprise Plus for 1 Processor, 5 Year, Supp Req
VMW-VC5-ST-1A	VMware vCenter 5 Standard for 1 Processor, 1 Year, Support Required
VMW-VC5-ST-2A	VMware vCenter 5 Standard for 1 Processor, 2 Year, Support Required
VMW-VC5-ST-3A	VMware vCenter 5 Standard for 1 Processor, 3 Year, Support Required
VMW-VC5-ST-4A	VMware vCenter 5 Standard for 1 Processor, 4 Year, Support Required
VMW-VC5-ST-5A	VMware vCenter 5 Standard for 1 Processor, 5 Year, Support Required
Novell	
SLES-1A	SLES/1yr subscription/Svcs Required/0 media
SLES-3A	SLES/3yr subscription/Svcs Required/0 media

STEP 7 CHOOSE OPERATING SYSTEM MEDIA KIT

Choose the optional operating system media listed in *Table 8*.

Table 8 OS Media

Product ID (PID)	PID Description
RHEL-6	RHEL 6 Recovery Media Only (Multilingual)
SLES-11	SLES 11 media only (multilingual)
MSWS-08R2-STHV-RM	Windows Svr 2008 R2 ST (1-4CPU, 5CAL), Media
MSWS-08RS-ENHV-RM	Windows Svr 2008 R2 EN (1-8CPU, 25CAL), Media
MSWS-08R2-DCHV-RM	Windows Svr 2008 R2 DC (1-8CPU, 25CAL), Media

STEP 8 CHOOSE OPTIONAL VALUE-ADDED SOFTWARE

You can select from a variety of value-added software listed in *Table 9*.

Table 9 Value-Added Software

Product ID (PID)	PID Description
N1K-CSK9-UCS-404	Cisco Nexus 1000V VSM Virtual Appliance Software
BMC-012	BMC BPPM Per Server
BMC-SE-4C	BMC BladeLogic Standard Edition, 4 Cores, Support Required
BMC-SE-6C	BMC BladeLogic Standard Edition, 6 Cores, Support Required
BMC-SE-8C	BMC BladeLogic Standard Edition, 8 Cores, Support Required
BMC-SE-10C	BMC BladeLogic Standard Edition, 10 Cores, Support Required
BMC-AE-4C	BMC BladeLogic Advanced Edition, 4 Cores, Support Required
BMC-AE-6C	BMC BladeLogic Advanced Edition, 6 Cores, Support Required
BMC-AE-8C	BMC BladeLogic Advanced Edition, 8 Cores, Support Required
BMC-AE-10C	BMC BladeLogic Advanced Edition, 10 Cores, Support Required

STEP 9 CHOOSE SERVICE and SUPPORT LEVEL

A variety of service options are available, as described in this section.

Unified Computing Warranty, No Contract

If you have noncritical implementations and choose to have no service contract, the following coverage is supplied:

- Three-year parts coverage.
- Next business day (NBD) parts replacement eight hours a day, five days a week.
- 90-day software warranty on media.
- Downloads of BIOS, drivers, and firmware updates.
- UCSM updates for systems with Unified Computing System Manager. These updates include minor enhancements and bug fixes that are designed to maintain the compliance of UCSM with published specifications, release notes, and industry standards.

Unified Computing Mission Critical Service

This service delivers personalized technical account management, expedited technical support, and expert field support engineering for the Cisco Unified Computing System (UCS).

The Mission Critical Support Service provides a designated technical account manager (TAM) who acts as a strategic resource to help ensure that the unified computing environment runs at peak efficiency. If a problem arises that threatens business continuity, the TAM provides crisis management leadership, and your IT staff receives expedited access to Cisco's Technical Assistance Center (TAC).

Please note: This service has qualification criteria. Your company must have $1.2M of UCS equipment, 200 blades and a single location to qualify for this service level. Choose the desired service listed in *Table 10*.

Table 10 Unified Computing Mission Critical Service

Product ID (PID)	On Site?	Description
CON-UCM7-B250-M2	Yes	UC Mission Critical 24x7x4 On-site
CON-UCM8-B250-M2	Yes	UC Mission Critical 24x7x2 On-site

Unified Computing Support Service

For support of the entire Unified Computing System, Cisco offers the Cisco Unified Computing Support Service. This service provides expert software and hardware support to help sustain performance and high availability of the unified computing environment. Access to Cisco Technical Assistance Center (TAC) is provided around the clock, from anywhere in the world.

For UCS blade servers, there is Smart Call Home, which provides proactive, embedded diagnostics and real-time alerts. For systems that include Unified Computing System Manager, the support service includes downloads of UCSM upgrades. The Unified Computing Support Service includes flexible hardware replacement options, including replacement in as little as two hours. There is also access to Cisco's extensive online technical resources to help maintain

optimal efficiency and uptime of the unified computing environment. You can choose a desired service listed in *Table 11*.

Table 11 UCS Computing Support Service

Product ID (PID)	On Site?	Description
CON-UCS1-B250-M2	No	UC Support 8X5XNBD
CON-UCS2-B250-M2	No	UC Support 8X5X4
CON-UCS3-B250-M2	No	UC Support 24x7x4
CON-UCS4-B250-M2	No	UC Support 24x7x2
CON-UCS5-B250-M2	Yes	UC Support 8X5XNBD
CON-UCS6-B250-M2	Yes	UC Support 8X5X4
CON-UCS7-B250-M2	Yes	UC Support 24x7x4
CON-UCS8-B250-M2	Yes	UC Support 24x7x2

Unified Computing Warranty Plus Service

For faster parts replacement than is provided with the standard Cisco Unified Computing System warranty, Cisco offers the Cisco Unified Computing Warranty Plus Service. You can choose from several levels of advanced parts replacement coverage, including onsite parts replacement in as little as two hours. Warranty Plus provides remote access any time to Cisco support professionals who can determine if a return materials authorization (RMA) is required. You can choose a service listed in *Table 12*.

Table 12 UCS Computing Warranty Plus Service

Product ID (PID)	On Site?	Description
CON-UCW2-B250-M2	No	UC Warranty Plus 8x5x4
CON-UCW3-B250-M2	No	UC Warranty Plus 24x7x4
CON-UCW4-B250-M2	No	UC Warranty Plus 24x7x2
CON-UCW5-B250-M2	Yes	UC Warranty Plus 8X5XNBD
CON-UCW6-B250-M2	Yes	UC Warranty Plus 8X5X4
CON-UCW7-B250-M2	Yes	UC Warranty Plus 24x7x4
CON-UCW8-B250-M2	Yes	UC Warranty Plus 24x7x2

Unified Computing Drive Retention Service

With the Cisco Unified Computing Drive Retention (UCDR) service, you can obtain a new disk drive in exchange for a faulty drive without returning the faulty drive. In exchange for a Cisco replacement drive, you provide a signed Certificate of Destruction (CoD) confirming that the drive has been removed from the system listed, is no longer in service, and has been destroyed.

Sophisticated data recovery techniques have made classified, proprietary, and confidential information vulnerable, even on malfunctioning disk drives. The UCDR service enables you to retain your drives and ensures that the sensitive data on those drives is not compromised, thereby reducing the risk of any potential liabilities. This service also enables you to comply with regulatory, local, and federal requirements.

If your company has a need to control confidential, classified, sensitive, or proprietary data, you might want to consider one of the Drive Retention Services listed in *Table 13*.

NOTE: Cisco does not offer a certified drive destruction service as part of this service.

Table 13 Drive Retention Service Options

Service Description	Service Program Name	Service Level GSP	Service Level	Product ID (PID)
UCS Mission Critical Support Service With Drive Retention	UC CRIT DR	UCMD7	24x7x4 Onsite	CON-UCMD7-B250-M2SFF
		UCMD8	24x7x2 Onsite	CON-UCMD8-B250-M2SFF
UCS Support Service With Drive Retention	UC SUPP DR	UCSD1	8x5xNBD	CON-UCSD1-B250-M2SFF
		UCSD2	8x5x4	CON-UCSD2-B250-M2SFF
		UCSD3	24x7x4	CON-UCSD3-B250-M2SFF
		UCSD4	24x7x2	CON-UCSD4-B250-M2SFF
		UCSD5	8x5xNBD Onsite	CON-UCSD5-B250-M2SFF
		UCSD6	8x5x4 Onsite	CON-UCSD6-B250-M2SFF
		UCSD7	24x7x4 Onsite	CON-UCSD7-B250-M2SFF
		UCSD8	24x7x2 Onsite	CON-UCSD8-B250-M2SFF

Table 13 Drive Retention Service Options *(continued)*

Service Description	Service Program Name	Service Level GSP	Service Level	Product ID (PID)
UCS Warranty Plus With Drive Retention	UC PLUS DR	UCWD2	8x5x4	CON-UCWD2-B250-M2SFF
		UCWD3	24x7x4	CON-UCWD3-B250-M2SFF
		UCWD4	24x7x2	CON-UCWD4-B250-M2SFF
		UCWD5	8x5xNBD Onsite	CON-UCWD5-B250-M2SFF
		UCWD6	8x5x4 Onsite	CON-UCWD6-B250-M2SFF
		UCWD7	24x7x4 Onsite	CON-UCWD7-B250-M2SFF
		UCWD8	24x7x2 Onsite	CON-UCWD8-B250-M2SFF

For more service and support information, see the following URL:

http://www.cisco.com/en/US/services/ps2961/ps10312/ps10321/Cisco_UC_Warranty_Support_DS.pdf

For a complete listing of available services for Cisco Unified Computing System, see this URL:

http://www.cisco.com/en/US/products/ps10312/serv_group_home.html

ORDER OPTIONAL KVM CABLE

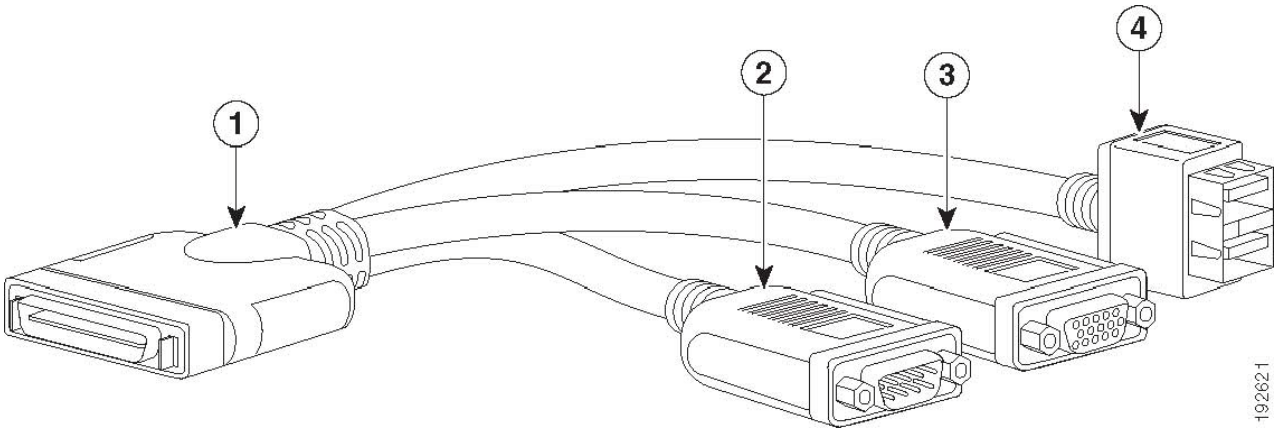
The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB 2.0 ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

The KVM cable ordering information is listed in *Table 14*.

Table 14 KVM Cable

Product ID (PID)	PID Description
37-1016-01	KVM Cable

Figure 4 KVM Cable



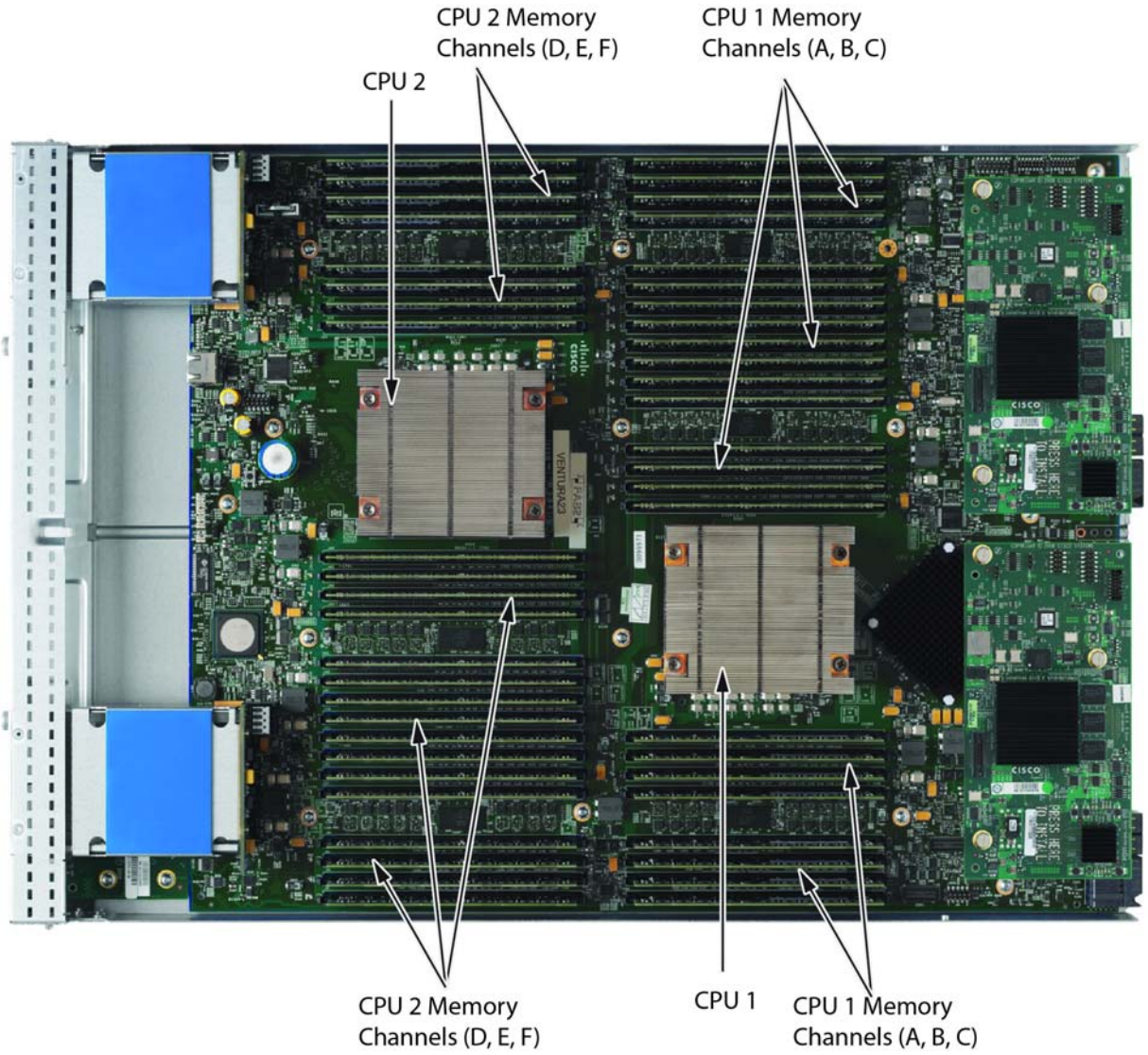
1	Connector (to server front panel)	**3**	VGA connector (for a monitor)
2	DB-9 serial connector	**4**	Two-port USB 2.0 connector (for a mouse and keyboard)

SUPPLEMENTAL MATERIAL

Motherboard

A top view of the B250 M2 motherboard is shown in *Figure 5*.

Figure 5 B250 M2 Motherboard



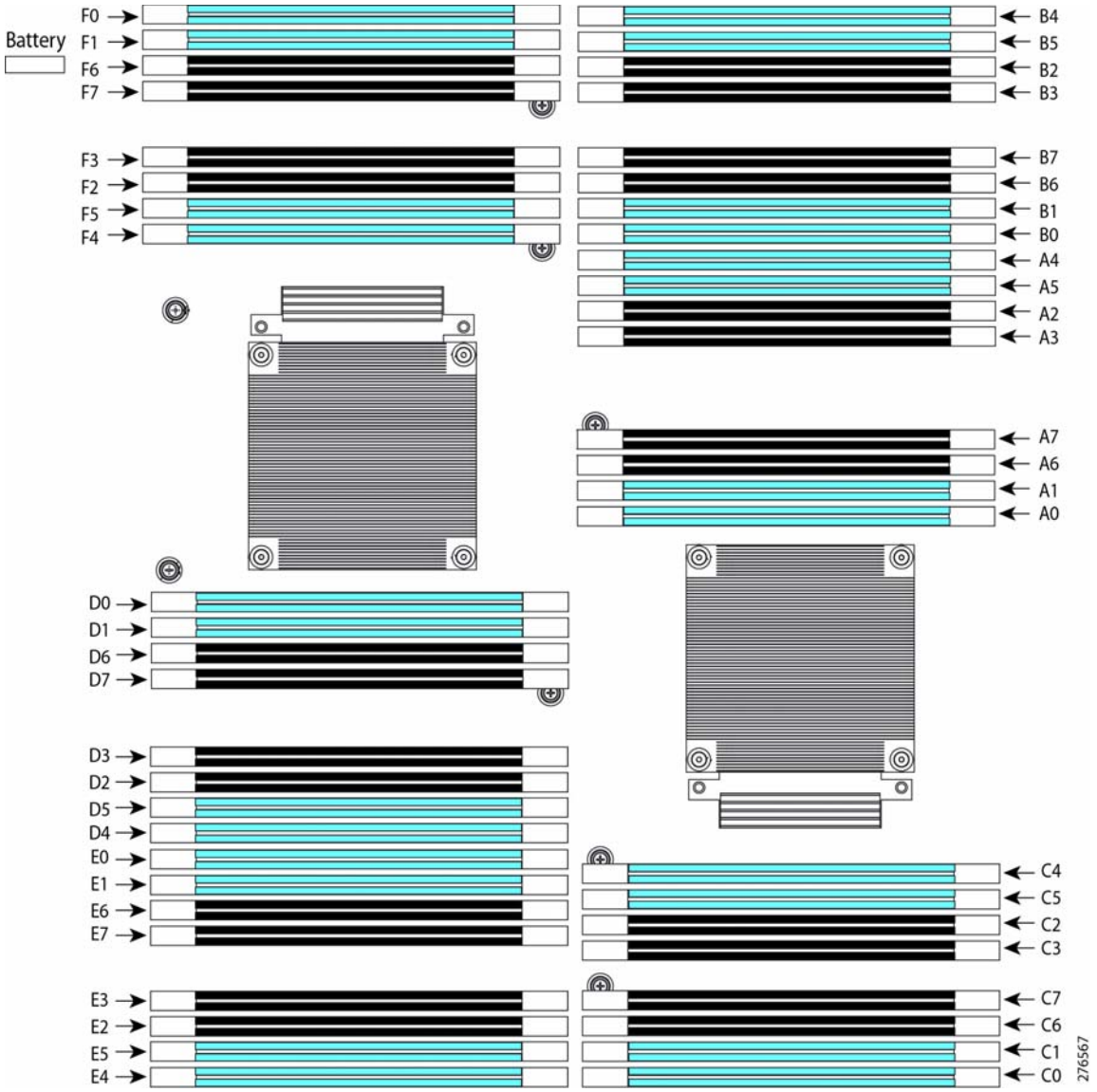
DIMM and CPU Layout

Each CPU controls three memory channels, as follows (refer to *Figure 3 on page 10*):

- CPU1: Channels A, B, and C
  - Bank 1 - A0, A1; B0, B1; C0, C1 (blue DIMM slots)
  - Bank 2 - A4, A5; B4, B5; C4, C5 (black DIMM slots)
  - Bank 3 - A2, A3; B2, B3; C2, C3 (blue DIMM slots)
  - Bank 4 - A6, A7; B6, B7; C6, C7 (black DIMM slots)
- CPU2: Channels D, E, and F
  - Bank 1 - D0, D1; E0, E1; F0, F1 (blue DIMM slots)
  - Bank 2 - D4, D5; E4, E5; F4, F5 (black DIMM slots)
  - Bank 3 - D2, D3; E2, E3; F2, F3 (blue DIMM slots)
  - Bank 4 - D6, D7; E6, E7; F6, F7 (black DIMM slots)

The DIMM and CPU physical layout is shown in *Figure 6*. CPU 1 is located on right and CPU 2 on the left.

Figure 6 DIMM and CPU Layout



NOTE: The memory in the right column cannot communicate with the memory in the left column unless both CPUs are present.

Memory Population Recommendations

Memory is organized as three memory channels. CPU 1 has channels A, B, and C, and CPU 2 has channels D, E, and F. Up to 8 DIMMs can be installed per channel. *Figure 6 on page 29* shows how the channels and banks are laid out for each CPU.

Table 15 shows the order you must follow when adding matched pairs of DIMMs to channels.

Table 15 Preferred DIMM Population Order

Number of DIMMs to Install in a Channel	Install DIMMs in These Slot Numbers[1]
2	0, 1
4	(0, 1); (4, 5)
8	(0, 1); (4, 5); (2, 3); (6, 7)

Notes . . .

1. The slots inside the parentheses are electrically paired with each other, and should be populated with identically matched DIMMs that were ordered as a pair. Do not swap a paired DIMM with a DIMM that is not identical in manufacturer part number.

When considering the memory configuration of your server, you should observe the following:

- Your selected CPU(s) can have some effect on performance. If two CPUs are used, they must both be of the same type.
- Performance degradation can result from the following:
  - Mixing DIMM sizes and densities within a pair is not allowed and both DIMMs in the pair will be logically removed from the memory array
  - Unevenly populating DIMMs between CPUs

Table 16 gives the recommended memory configurations to optimize performance for the B250 M2 blade server. The patterns shown in the table form 3-way interleaving across three memory channels to achieve the highest memory bandwidth.

Table 16 Recommended B250 M2 Memory Configurations

Total System Memory Size (GB)	Memory Slot Pairs in Each Channel (3 channels per processor, a total of 6 channels)				Highest DIMM Operation Speed	Total DIMMs in System
	Slot Pair (0,1)	Slot Pair (2,3)	Slot Pair (4,5)	Slot Pair (6,7)		
48	8 GB kit x 6				1333 MHz	12
96	8 GB kit x 6		8 GB kit x 6		1333 MHz	24
192	8 GB kit x 6	8 GB kit x 6	8 GB kit x 6	8 GB kit x 6	1333 MHz	48
	16 GB kit x 6		16 GB kit x 6		1333 MHz	24

Table 16 Recommended B250 M2 Memory Configurations *(continued)*

Total System Memory Size (GB)	Memory Slot Pairs in Each Channel (3 channels per processor, a total of 6 channels)				Highest DIMM Operation Speed	Total DIMMs in System
	Slot Pair (0,1)	Slot Pair (2,3)	Slot Pair (4,5)	Slot Pair (6,7)		
384	16 GB kit x 6	16 GB kit x 6	16 GB kit x 6	16 GB kit x 6	1333 MHz	48

Allowed Memory Configurations

Table 17 shows the allowed memory configurations for non-mirrored memory.

Table 17 Allowed Memory Configurations for Non-Mirrored Memory

Non-Mirrored Memory		
Rules	Minimum 2 DIMMs or 1 paired DIMM kit (per CPU)	
	Maximum 48 DIMMs or 24 Paired DIMM Kits with 2 CPUs	
	Maximum 24 DIMMs or 12 Paired DIMM Kits per CPU	
	If 2 CPUs selected, memory configuration must be identical on both CPUs	
DIMM PID options for memory in this table:	**PID**	**PID description**
8GB/2x4GB 2R	A02-M308GB1-2	8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB Kit Standard Voltage
8GB/2x4GB 2R Low-Dual	A02-M308GB1-2-L	8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 2R Kit/Low-Dual Voltage
8GB/2x4GB 1R Low-Dual	A02-M308GB2-2-L	8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 1R Kit/Low-Voltage
8GB/2x4GB 1R x4 Low-Dual	UCS-MR-2X041RX-B	2X4GB DDR3-1333-MHz RDIMM/PC3-10600/1R/x4/Low-Volt
16GB/2x8GB 2R	A02-M316GB1-2	16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB Kit Standard Voltage
16GB/2x8GB 2R Low-Dual	A02-M316GB1-2-L	16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB 2R Kit/Low-Dual Voltage
16GB/2x8GB 2R x4 Low-Volt	UCS-MR-2X082RX-B	2X8GB DDR3-1333-MHz RDIMM/PC3-10600/2R/x4/Low-Volt

Table 17 Allowed Memory Configurations for Non-Mirrored Memory *(continued)*

Non-Mirrored Memory			
Total capacity (GB) for 1 CPU	**CPU 1 Memory**	**CPU 2 Memory**	**Total capacity (GB) for 2 CPUs**
8	1 x (8GB/2x4GB 2R)	1 x (8GB/2x4GB 2R)	16
8	1 x (8GB/2x4GB 2R Low-Dual)	1 x (8GB/2x4GB 2R Low-Dual)	16
8	1 x (8GB/2x4GB 1R Low-Dual)	1 x (8GB/2x4GB 1R Low-Dual)	16
8	1 x (8GB/2x4GB 1R x4 Low-Dual)	1 x (8GB/2x4GB 1R x4 Low-Dual)	16
16	2 x (8GB/2x4GB 2R)	2 x (8GB/2x4GB 2R)	32
16	2 x (8GB/2x4GB 2R Low-Dual)	2 x (8GB/2x4GB 2R Low-Dual)	32
16	2 x (8GB/2x4GB 1R Low-Dual)	2 x (8GB/2x4GB 1R Low-Dual)	32
16	2 x (8GB/2x4GB 1R x4 Low-Dual)	2 x (8GB/2x4GB 1R x4 Low-Dual)	32
24	3 x (8GB/2x4GB 2R)	3 x (8GB/2x4GB 2R)	48
24	3 x (8GB/2x4GB 2R Low-Dual)	3 x (8GB/2x4GB 2R Low-Dual)	48
24	3 x (8GB/2x4GB 1R Low-Dual)	3 x (8GB/2x4GB 1R Low-Dual)	48
24	3 x (8GB/2x4GB 1R x4 Low-Dual)	3 x (8GB/2x4GB 1R x4 Low-Dual)	48
32	4 x (8GB/2x4GB 2R)	4 x (8GB/2x4GB 2R)	64
32	4 x (8GB/2x4GB 2R Low-Dual)	4 x (8GB/2x4GB 2R Low-Dual)	64
32	4 x (8GB/2x4GB 1R Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual)	64
32	4 x (8GB/2x4GB 1R x4 Low-Dual)	4 x (8GB/2x4GB 1R x4 Low-Dual)	64
40	5 x (8GB/2x4GB 2R)	5 x (8GB/2x4GB 2R)	80
40	5 x (8GB/2x4GB 2R Low-Dual)	5 x (8GB/2x4GB 2R Low-Dual)	80
40	5 x (8GB/2x4GB 1R Low-Dual)	5 x (8GB/2x4GB 1R Low-Dual)	80
40	5 x (8GB/2x4GB 1R x4 Low-Dual)	5 x (8GB/2x4GB 1R x4 Low-Dual)	80
48	6 x (8GB/2x4GB 2R)	6 x (8GB/2x4GB 2R)	96
48	6 x (8GB/2x4GB 2R Low-Dual)	6 x (8GB/2x4GB 2R Low-Dual)	96
48	6 x (8GB/2x4GB 1R Low-Dual)	6 x (8GB/2x4GB 1R Low-Dual)	96
48	6 x (8GB/2x4GB 1R x4 Low-Dual)	6 x (8GB/2x4GB 1R x4 Low-Dual)	96
64	8 x (8GB/2x4GB 2R)	8 x (8GB/2x4GB 2R)	128
64	8 x (8GB/2x4GB 2R Low-Dual)	8 x (8GB/2x4GB 2R Low-Dual)	128

Table 17 Allowed Memory Configurations for Non-Mirrored Memory *(continued)*

Non-Mirrored Memory			
64	8 x (8GB/2x4GB 1R Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual)	128
64	8 x (8GB/2x4GB 1R x4 Low-Dual)	8 x (8GB/2x4GB 1R x4 Low-Dual)	128
72	9 x (8GB/2x4GB 2R)	9 x (8GB/2x4GB 2R)	144
72	9 x (8GB/2x4GB 2R Low-Dual)	9 x (8GB/2x4GB 2R Low-Dual)	144
72	9 x (8GB/2x4GB 1R Low-Dual)	9 x (8GB/2x4GB 1R Low-Dual)	144
72	9 x (8GB/2x4GB 1R x4 Low-Dual)	9 x (8GB/2x4GB 1R x4 Low-Dual)	144
80	10 x (8GB/2x4GB 2R)	10 x (8GB/2x4GB 2R)	160
80	10 x (8GB/2x4GB 2R Low-Dual)	10 x (8GB/2x4GB 2R Low-Dual)	160
80	10 x (8GB/2x4GB 1R Low-Dual)	10 x (8GB/2x4GB 1R Low-Dual)	160
80	10 x (8GB/2x4GB 1R x4 Low-Dual)	10 x (8GB/2x4GB 1R x4 Low-Dual)	160
96	12 x (8GB/2x4GB 2R)	12 x (8GB/2x4GB 2R)	192
96	12 x (8GB/2x4GB 2R Low-Dual)	12 x (8GB/2x4GB 2R Low-Dual)	192
96	12 x (8GB/2x4GB 1R Low-Dual)	12 x (8GB/2x4GB 1R Low-Dual)	192
96	12 x (8GB/2x4GB 1R x4 Low-Dual)	12 x (8GB/2x4GB 1R x4 Low-Dual)	192
96	6 x (16GB/2x8GB 2R)	6 x (16GB/2x8GB 2R)	192
96	6 x (16GB/2x8GB 2R Low-Dual)	6 x (16GB/2x8GB 2R Low-Dual)	192
96	6 x (16 GB/2x8GB 2R x4 Low-Volt)	6 x (16 GB/2x8GB 2R x4 Low-Volt)	192
128	8 x (16GB/2x8GB 2R Low-Dual)	8 x (16GB/2x8GB 2R Low-Dual)	256
128	8 x (16GB/2x8GB 2R x4 Low-Dual)	8 x (16GB/2x8GB 2R x4 Low-Dual)	256
128	8 x (8GB/2x4GB 2R) AND 4 x (16GB/2x8GB 2R)	8 x (8GB/2x4GB 2R) AND 4 x (16GB/2x8GB 2R)	256
128	8 x (8GB/2x4GB 2R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	8 x (8GB/2x4GB 2R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	256
128	8 x (8GB/2x4GB 1R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	256
128	8 x (8GB/2x4GB 2R x4 Low-Dual) AND 4 x (16GB/2x8GB 2R x4 Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual) AND 4 x (16GB/2x8GB 2R x4 Low-Dual)	256
160	4 x (8GB/2x4GB 2R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	4 x (8GB/2x4GB 2R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	320
160	4 x (8GB/2x4GB 1R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	320

Table 17 Allowed Memory Configurations for Non-Mirrored Memory *(continued)*

Non-Mirrored Memory			
160	4 x (8GB/2x4GB 2R x4 Low-Dual) AND 8 x (16GB/2x8GB 2R x4 Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual) AND 8 x (16GB/2x8GB 2R x4 Low-Dual)	
192	12 x (16GB/2x8GB 2R)	12 x (16GB/2x8GB 2R)	384
192	12 x (16GB/2x8GB 2R Low-Dual)	12 x (16GB/2x8GB 2R Low-Dual)	384
192	12 x (16GB/2x8GB 2R x4 Low-Dual)	12 x (16GB/2x8GB 2R x4 Low-Dual)	384

Table 18 shows the allowed memory configurations for mirrored memory.

Table 18 Allowed Memory Configurations for Mirrored Memory

Mirrored Memory			
Rules	Minimum of 2 DIMM kits (4 DIMMS) and maximum of 8 DIMM kits (16 DIMMS) per CPU (see table below for valid Memory configurations). Also see **1-CPU Configuration with Memory Mirroring on page 13** and **2-CPU Configuration with Memory Mirroring on page 14**.		
	If 2 CPUs selected, memory configuration must be identical on both CPUs.		
	Cannot Mix Low Voltage Memory with non-Low Voltage Memory		
Total capacity (GB) for 1 CPU	**CPU 1 Memory**	**CPU 2 Memory**	**Total capacity (GB) for 2 CPUs**
16	2 x (8GB/2x4GB 2R)	2 x (8GB/2x4GB 2R)	32
16	2 x (8GB/2x4GB 2R Low-Dual)	2 x (8GB/2x4GB 2R Low-Dual)	32
16	2 x (8GB/2x4GB 1R Low-Dual)	2 x (8GB/2x4GB 1R Low-Dual)	32
16	2 x (8GB/2x4GB 1R x4 Low-Dual)	2 x (8GB/2x4GB 1R x4 Low-Dual)	32
32	4 x (8GB/2x4GB 2R)	4 x (8GB/2x4GB 2R)	64
32	4 x (8GB/2x4GB 2R Low-Dual)	4 x (8GB/2x4GB 2R Low-Dual)	64
32	4 x (8GB/2x4GB 1R Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual)	64
32	4 x (8GB/2x4GB 1R x4 Low-Dual)	4 x (8GB/2x4GB 1R x4 Low-Dual)	64
64	8 x (8GB/2x4GB 2R)	8 x (8GB/2x4GB 2R)	128
64	8 x (8GB/2x4GB 2R Low-Dual)	8 x (8GB/2x4GB 2R Low-Dual)	128
64	8 x (8GB/2x4GB 1R Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual)	128
64	8 x (8GB/2x4GB 1R x4 Low-Dual)	2 x (8GB/2x4GB 1R x4 Low-Dual)	128
64	4 x (16GB/2x8GB 2R)	4 x (16GB/2x8GB 2R)	128

Table 18 Allowed Memory Configurations for Mirrored Memory *(continued)*

Mirrored Memory			
64	4 x (16GB/2x8GB 2R Low-Dual)	4 x (16GB/2x8GB 2R Low-Dual)	128
64	4 x (16GB/2x8GB 2R x4 Low-Dual)	4 x (16GB/2x8GB 2R x4 Low-Dual)	128
128	8 x (16GB/2x8GB 2R Low-Dual)	8 x (16GB/2x8GB 2R Low-Dual)	256
128	8 x (16GB/2x8GB 2R x4 Low-Dual)	8 x (16GB/2x8GB 2R x4 Low-Dual)	256

TECHNICAL SPECIFICATIONS

Dimensions and Weight

Table 19 UCS B200 M2 Dimensions and Weight[1]

Parameter	Value
Height	1.95 in. (50 mm)
Width	16.5 in.(419.1 mm)
Depth	24.4 in. (620 mm)
Weight	25.0 lbs (11.34 kg)*

Notes . . .

1. The system weight given here is an estimate for a fully configured system and will vary depending on the number of CPUs, memory DIMMs, and other optional items.

Power Specifications

For configuration-specific power specifications, use the Cisco UCS Power Calculator at: http://www.cisco.com/assets/cdc_content_elements/flash/dataCenter/cisco_ucs_power_calculator/.

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